STRENGTHENING RURAL CANADA
RENFORCER LES COMMUNAUTÉS RURALES DU CANADA
Our people. Our communities. Our future.

STRENGTHENING RURAL CANADA:

Fewer & Older: Population and Demographic Challenges Across Rural Canada

A Pan-Canadian Report

This paper has been prepared for the Strengthening Rural Canada initiative by:
Dr. Bakhtiar Moazzami on behalf of Essential Skills Ontario, Decoda Literacy Solutions, the Saskatchewan Literacy Network, Literacy Newfoundland and Labrador and RESDAC.

This project is funded by the Government of Canada's Adult Learning, Literacy and Essential Skills Program.

Canada

ROADMAP FOR CANADA'S OFFICIAL LANGUAGES 2013-2018

EDUCATION
IMMIGRATION
COMMUNITIES

The opinions and interpretations in this publication are those of the author and do not necessarily reflect those of the Government of Canada, Essential Skills Ontario, Decoda Literacy Solutions, the Saskatchewan Literacy Network, Literacy Newfoundland and Labrador and RESDAC.

CONTENTS

1 INTRODUCTION

3 PART I: DEMOGRAPHIC TRENDS IN RURAL + URBAN CANADA

7 PART II: COMMON SOCIO-ECONOMIC CHARACTERISTICS OF RURAL CANADA

INTRODUCTION

Canada's economic prosperity has been based on a staples economy relying on the export of natural resources from peripheral and rural regions. Rural and small towns across Canada not only produce the natural resources for cities and suburbs to grow, but are also integral to our environment and cultural fabric. Nonetheless, across the country, many rural and remote communities are struggling to survive. Aging populations, lack of adequate infrastructure necessary for future growth, the migration of youth to urban areas, diminished human capital and shifting economies are just some of the challenges facing many small communities in Canada.

Rural Canada constitutes 95 percent of the country's land mass. Depending on which definition of rural is used, between 19 and 30 percent of the Canadian population live in rural areas.[1] The size of the rural population varies greatly from one province or territory to another. In 2011, the share of the rural population reached as high as 53 percent in Prince Edward Island and as low as 14 percent in British Columbia.[2]

Strengthening Rural Canada has been a pan-Canadian initiative examining how demographic changes have impacted rural and urban areas in four Canadian provinces, namely, British Columbia, Newfoundland and Labrador, Ontario and Saskatchewan. The focus has been on the following four population groups:

1. Total population;

2. Francophone population defined as individuals whose mother tongue is French;

3. Aboriginal population defined by Statistics Canada as persons who reported identifying with at least one Aboriginal group, that is, North American Indian, Metis or Inuit, and/or those who reported being a Treaty Indian or a registered Indian, as defined by the Indian Act of Canada, and/or those who reported they were members of an Indian band or First Nation;

4. Immigrant population defined as persons who are, or have ever been, landed immigrants in Canada.

We examined past, present and future demographic trends in rural and urban areas and paid special attention to the degree of rurality. Various socio-economic trends in rural and urban areas are analyzed. We also examined factors explaining the existing earnings gap between rural and urban regions. For that, we developed human capital indexes for rural and urban areas and found that a significant part of the earnings gap between rural and urban regions is explained by differences in the human capital composition of their employed workforce.

The objective of the present report is to bring together the findings of those four studies to see if there are commonalities among rural areas that can form the basis for devising a unified approach to economic development in rural and small town Canada.

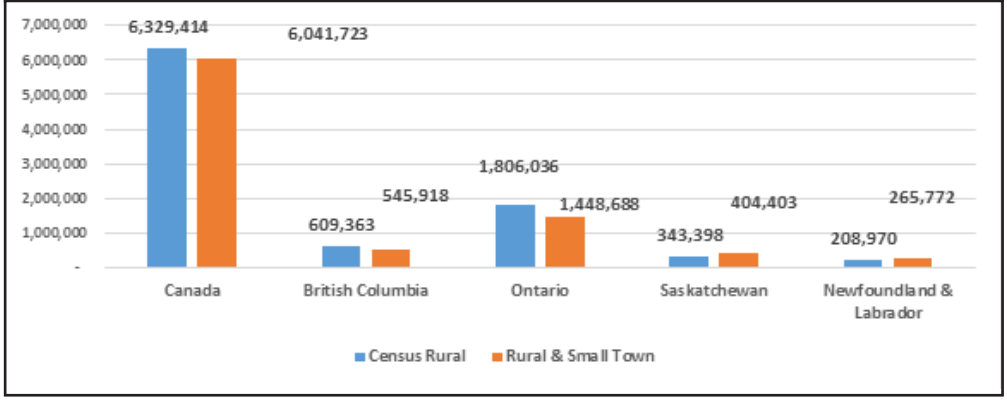
Before examining demographic and socio-economic characteristics of rural areas, we need to define the term 'rural'. There has been an age-old debate regarding whether rural is a geographical concept or a social representation or a culture and a way of life. This report focusses on the geographical classifications of rural regions. There are at least six different definitions of rural areas each emphasizing different criteria such as population size, population density and labour market context. Different definitions result in different estimates of the rural and urban population.

Statistics Canada suggests using the 'rural and small town' definition as a starting-point or benchmark for understanding Canada's rural population. This is the population living in towns and municipalities outside the commuting zone of centres with a population of 10,000 or more.[3] Statistics Canada also reports rural population based on the Census Rural definition which refers to the population living outside areas of 1,000 or more inhabitants with a population density of 400 or more inhabitants per square kilometre.

PART I: DEMOGRAPHIC TRENDS IN RURAL + URBAN CANADA

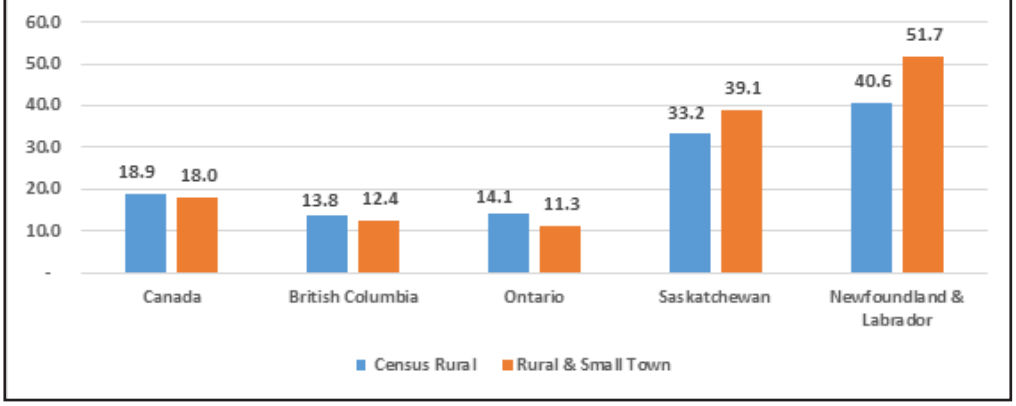
Figure 1 shows the rural population in Canada, British Columbia, Newfoundland and Labrador, Ontario and Saskatchewan based on Census rural and rural and small town (RST) definitions. Using different definitions also results in different shares of the rural population in various provinces as shown in Figure 2. On average about 19 percent of Canada's population lived in Census rural areas in 2011. The share of the rural population exceeds 40 percent in Prince Edward Island (53%), New Brunswick (48%), Nova Scotia (43%) and Newfoundland and Labrador (41%).

Figure 1: Rural Population in 2011



The rural population accounts for 33 and 28 percent of the total population in Saskatchewan and Manitoba respectively. On average, about 38 percent of the population in the above six provinces live in rural areas. British Columbia and Ontario have the lowest share of rural population. The rural population accounts for about 19 and 17 percent of the total population in Quebec and Alberta respectively. The share of rural population in Canada and provinces has been declining due to the aging of the population combined with out-migration of youth as well as their inability to attract or retain immigrants (Figure 3).

Figure 2: Percentage Share of Rural Population in 2011



Rural population can be disaggregated into four zones based on the size of commuting flows of the labour force to any urban or population centre. These zones are referred to as metropolitan influenced zones (MIZ) and are classified as strong, moderate, weak and no MIZ. The strong MIZ areas are those where at least 30 percent of the

labour force commute to a larger urban centre for work. The moderate MIZ areas are those where between 5 and 30 percent of the labour force commute to a larger population centre for work. The weak MIZ zones comprise areas with a commuting flow of between zero and 5 percent. The no MIZ category comprises areas where no person commutes to an urban centre to work.

Figure 3: Percentage Share of Rural Population

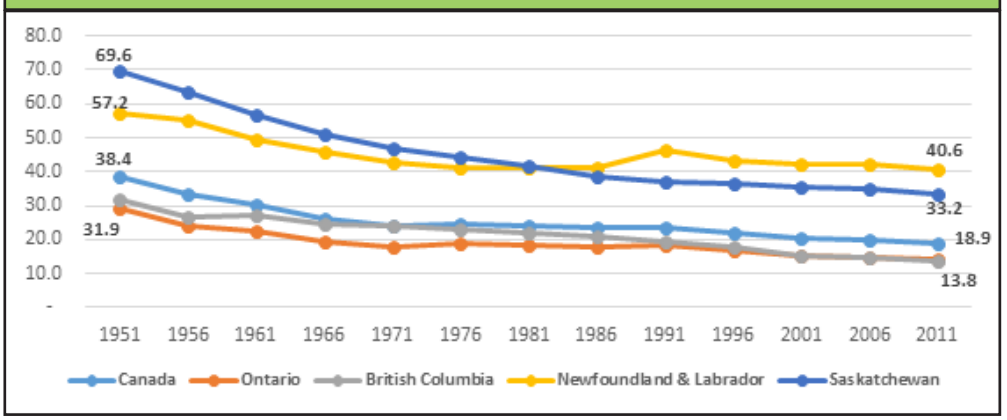
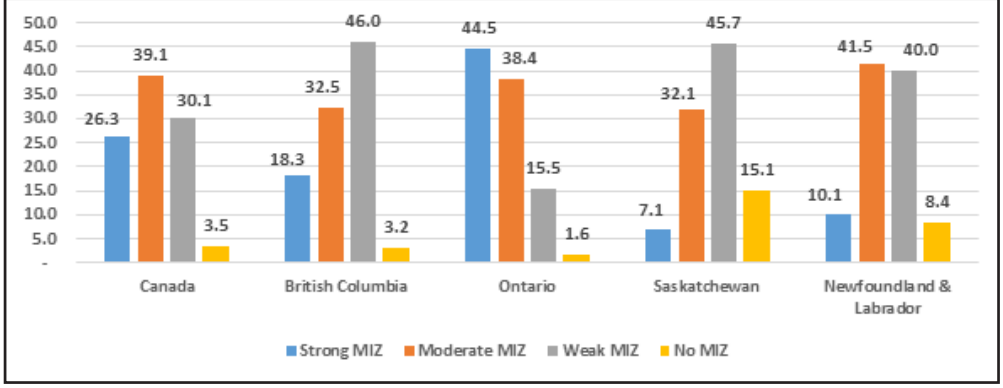


Figure 4: Percentage Distribution of Rural Population in 2011



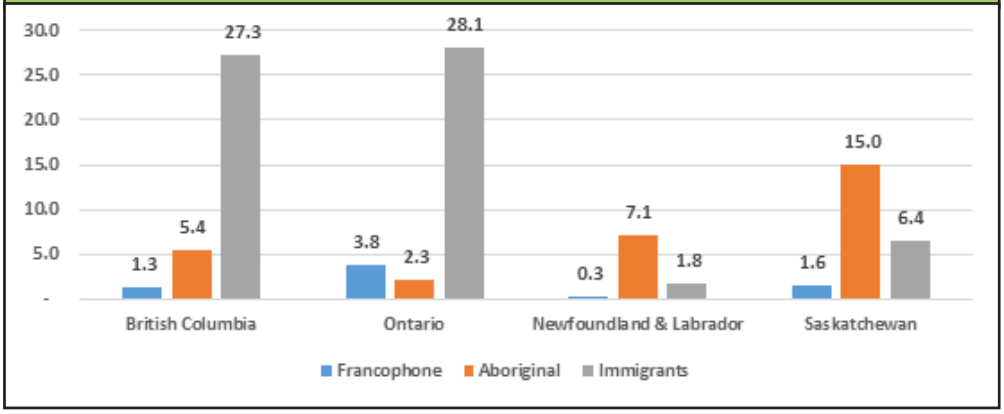
Using the 2011 census, Figure 4 shows the percentage distribution of rural population in various regions in 2011.

The majority or 39.1 percent of Canada's rural population live in rural areas with a moderate link to urban centres. About a third live in relatively remote rural areas with weak or no link to population centres.

Among the four provinces studied, Ontario has the lowest share of population living in relatively remote areas (17.1%) followed by Newfoundland and Labrador (48.4%), British Columbia (49.3%), and Saskatchewan (60.8%).

An important feature of Canada's urban and rural areas is their cultural and linguistic diversity as shown in Figure 5. The majority of

Figure 5: Linguistic & Cultural Diversity in 2011



Francophones live in urban centres (Figure 6). About 78.6 percent of immigrants in Newfoundland & Labrador live in urban centres. The share of immigrants living in urban centres rises to 85.9 percent in Saskatchewan, 94.9 percent in British Columbia and 97.2 percent in Ontario. Similarly, the majority of off-reserve Aboriginals live in urban Centres. On the other hand, most of the on-reserve Aboriginal population reside in relatively remote regions with weak or no link to urban centres.

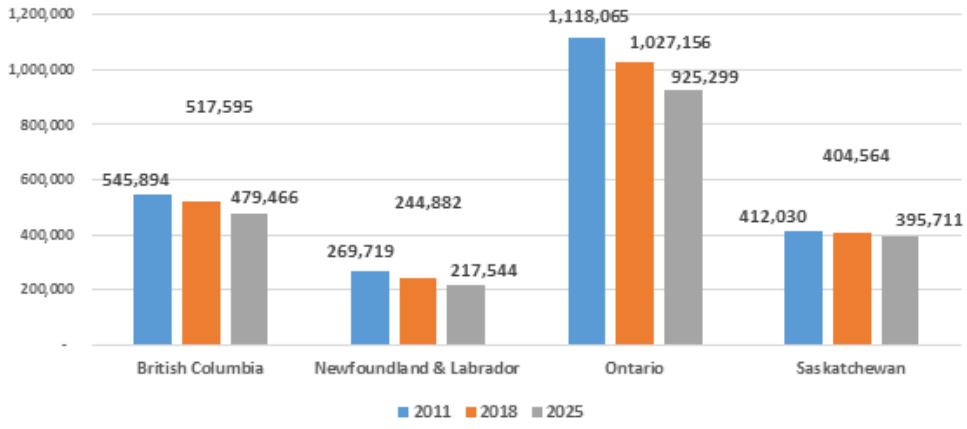
Figure 6: Geographical Distribution of Francophones and Aboriginals in 2011

Using the Cohort Component method, we made projections of the rural and urban populations from the base year of 2011 to 2025 (Figure 7).[4] Population projections are an extrapolation of historical data into the future based on certain assumptions about future fertility rates, mortality rates and migration flows. The accuracy of the population projections is directly proportional to the population size and its historical growth rate and inversely proportional to the length of the time projection. We used detailed 2001 and 2011 Census population data obtained from Statistics Canada. We also obtained age-specific fertility rates for rural and small towns as well as urban regions in 2011. We have assumed that the fertility rates during the projection period stay unchanged. We have also assumed that migration flows during the projection period are the same as in 2001-2011.

The rural population across all provinces is expected to decline during the projection period. The

rate of decline differs among different provinces. The rural population is expected to decline by 19.3 percent in Newfoundland and Labrador followed by 17.2 percent in Ontario, 12.2 percent in British Columbia and 4.0 percent in Saskatchewan.

Figure 7: Rural Population Projections: 2011-2025



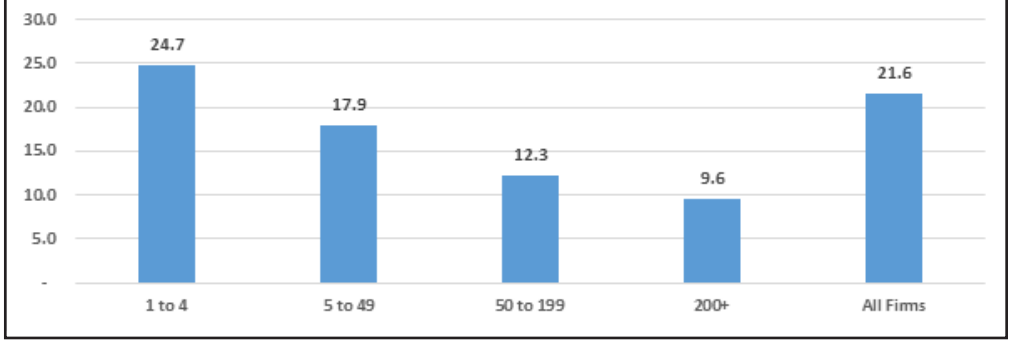
PART II: COMMON SOCIO-ECONOMIC CHARACTERISTICS OF RURAL CANADA

There are many commonalities among rural areas in Canada including declining population, outmigration of youth, aging of the population, lower level of human capital, relatively smaller share of people of working age and a small immigrant population. In addition, more than half of 1.4 million Aboriginal people, namely First Nations, Inuit and Métis live in rural Canada.

Rural economies are diverse, ranging from single-industry communities that depend solely on agriculture, forestry, mining, fishing, hunting and trapping, oil and gas or tourism to mixed economy communities. Some rural areas have vibrant economies and others suffer from chronic unemployment and lack of job opportunities.

According to a recent report by Statistics Canada, there were about 1.1 million businesses with payroll employees in Canada in 2007. About 21.6 percent of them were located in rural and small town areas (Figure 8). The report indicates that the share of firms in rural and small town areas varied according to firm size. About 24.7 percent of all firms with 1 to 4 employees were located in RSTs in 2007.[5] Also, compared to Canada, rural areas had a higher share of firms with 1 to 4 employees.

Figure 8: Percentage of Firms Located in Rural and Small Towns by Employee Size in 2007

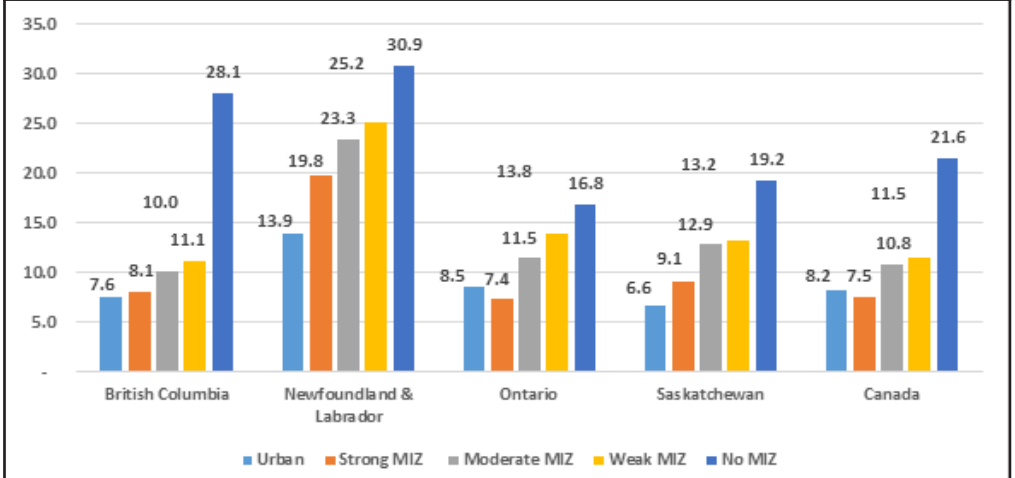


About 18 percent of all firms in rural Canada were involved in primary industries. The share of firms engaged in primary industries ranges from 16 percent in rural areas with strong link to urban centres to 30 percent in remote regions. Only 5 percent of rural firms are located in remote areas.

This is in spite of the fact that most of Canada's untapped natural resources are located in relatively remote rural areas. Construction, distribution services, social and personal services and a small manufacturing sector accounted for the remaining industrial activities in rural areas.[6]

A common characteristic of rural areas is their relatively high unemployment rates (Figure 9). The unemployment rate rises as the degree of rurality increases. Areas with a weak or no link to urban centres have the highest unemployment rates. These are areas with potentially significant natural resources development which requires infrastructural development as well as Aboriginal and non-Aboriginal cooperation, both of which are currently absent to a large extent.

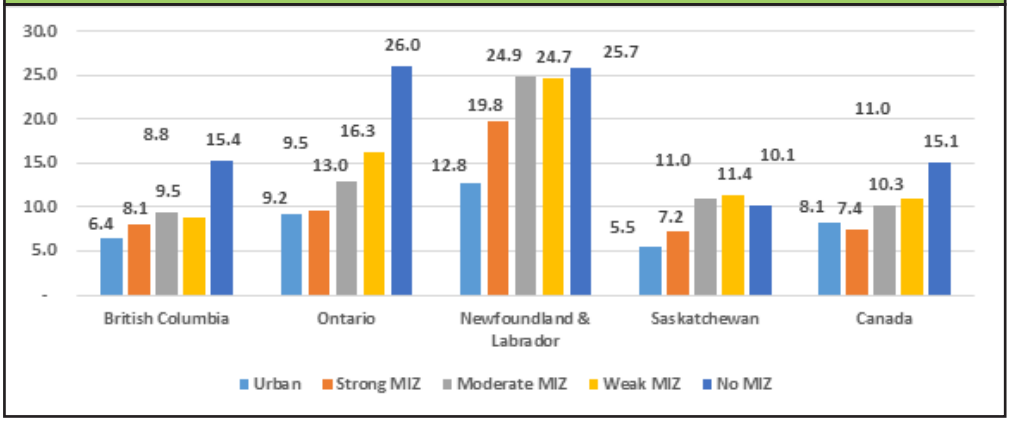
Figure 9: Unemployment Rate in Rural and Urban Canada in 2011



Higher unemployment rates result in greater dependency on government transfer payments (Figure 10). Dependency on government transfer payments rises as the degree of rurality increases.

There exists a positive and significant relationship between the unemployment and dependency rates which are both influenced by the prevailing economic environment in various areas.

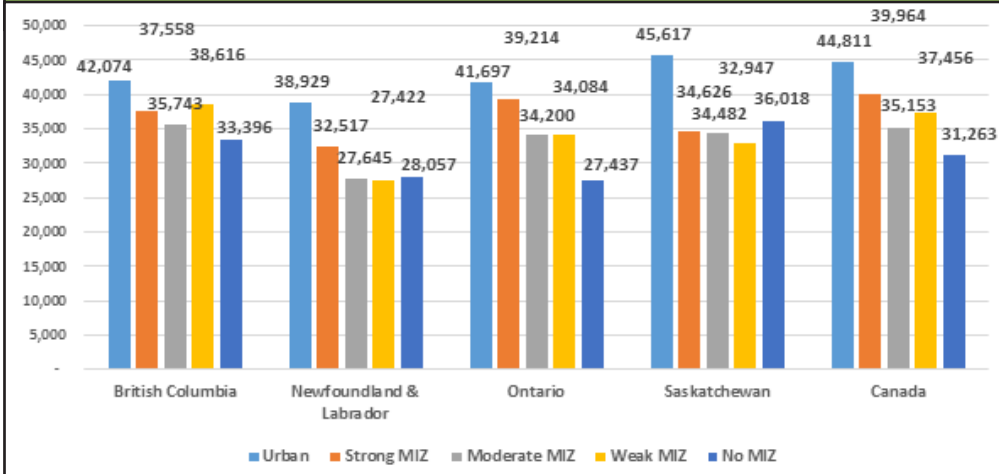
Figure 10: Dependency Rates in Rural and Urban Canada



The same picture appears when one examines average employment income in various urban and rural areas in Canada (Figure 11). The average earnings declines as the degree of rurality rises. The only exception appears to be rural areas with a weak link to urban centres for which the average earnings is higher than the earnings of those located in moderately influenced zones in Canada. Statistics Canada reports that rural areas with a weak link to urban centres often serve as regional service centres. The weakly linked rural areas also have relatively more producer service firms and more firms with over 200 employees than other rural areas.[7] Also, about 24 percent of all primary firms are located in rural areas with a weak link to urban centres.[8]

The earnings gap between rural and urban Canada is significant. On average, earnings in remote rural areas are about 30 percent lower than earnings in urban centres. What explains the existing earnings gap between rural and urban regions? Is it the remoteness or lack of human capital? We will address this question later in the report.

Figure 11: Average Employment Earnings in Urban and Rural Canada



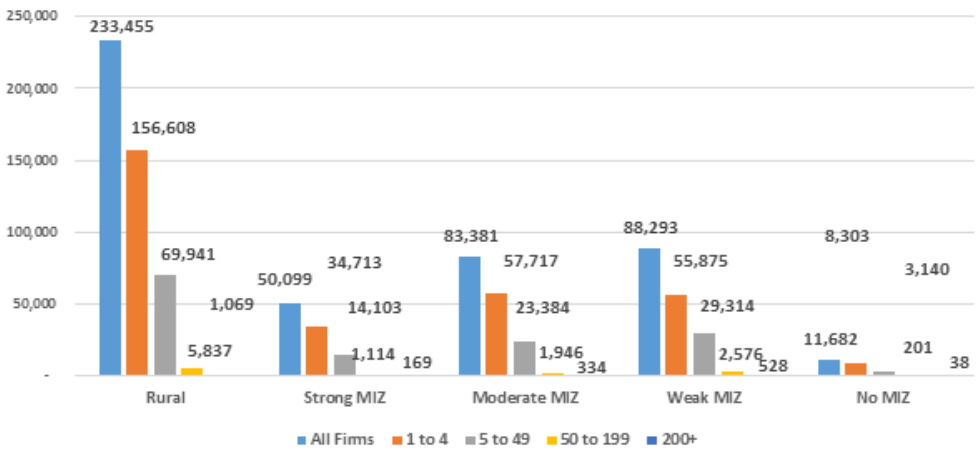
The remote rural areas have the lowest average earnings, highest unemployment rates and highest percentage of people who receive transfer payments. These exist while those areas are home to significant natural resources. Economic development appears to be hindered in those areas because of the lack of adequate infrastructural development. Lack of infrastructural development and access to market are significant barriers to economic development in relatively remote rural regions.

As Figure 12 shows, only about 5 percent of all rural firms are located in remote areas. Overall, about 21.5 percent of rural firms are located in rural areas with a strong link to urban centres; 35.7 percent are located in rural areas with a moderate link and 37.8 percent in rural areas with a weak link to urban centres.

We also examined the human capital composition of the working age population in urban and rural areas. Human capital indicators were estimated based on labour productivity as signaled by returns to various levels of educational attainment.

To estimate human capital indexes, we first estimated returns to different levels of schooling in Canada (Figure 13).[9] The estimated returns to schooling

Figure 12: Geographical Distribution of Firms by Size in Rural Canada



rise as the level of educational achievement increases reflecting higher productivity of individuals with an advanced level of education.

Then, we use the estimated returns to schooling or productivity coefficients as weights to calculate a weighted average index of the share of individuals with different levels of schooling for each of the CSDs in Canada and provinces.[10] The estimated human capital indexes for urban and rural areas as well as those for various population groups are the human capital composition indicators are lower in rural areas shown in Figure 14. The estimated index ranges from 1, if none of the area's residents have completed high school, to about 2 if all residents have obtained a university degree. In general, the human capital composition indicators are lower in rural areas.

Figure 13: Returns to Education in Canada

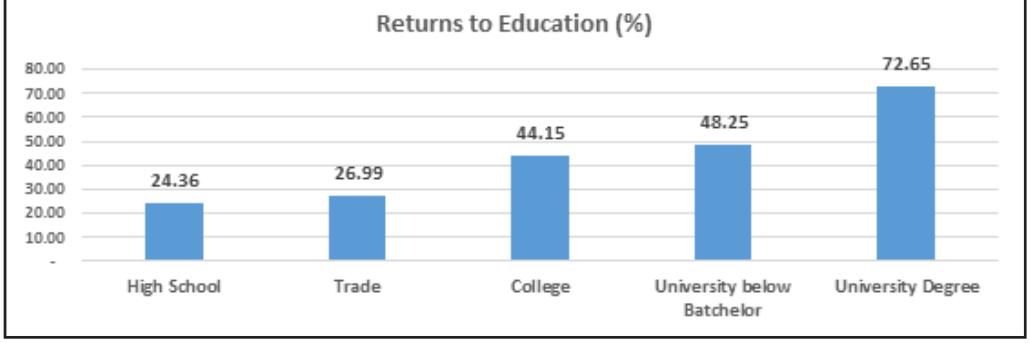


Figure 14: Human Capital Indicators for Urban and Rural Areas in 2011

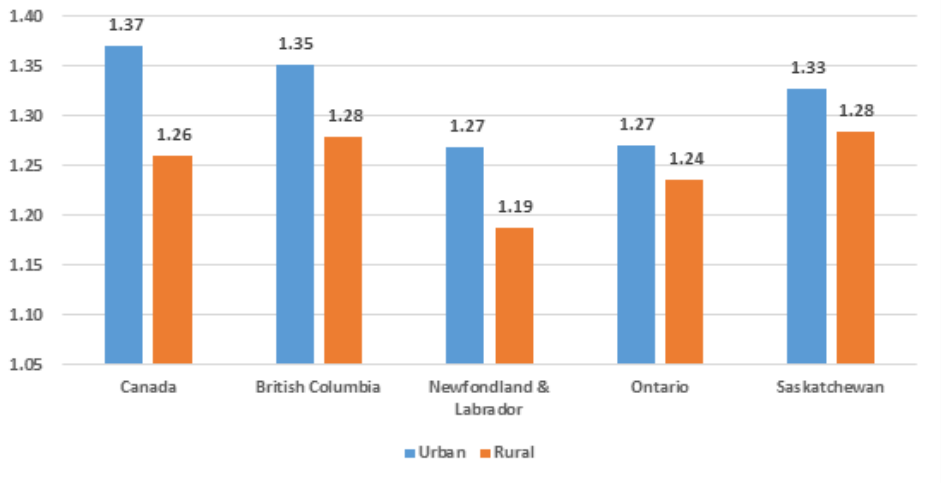
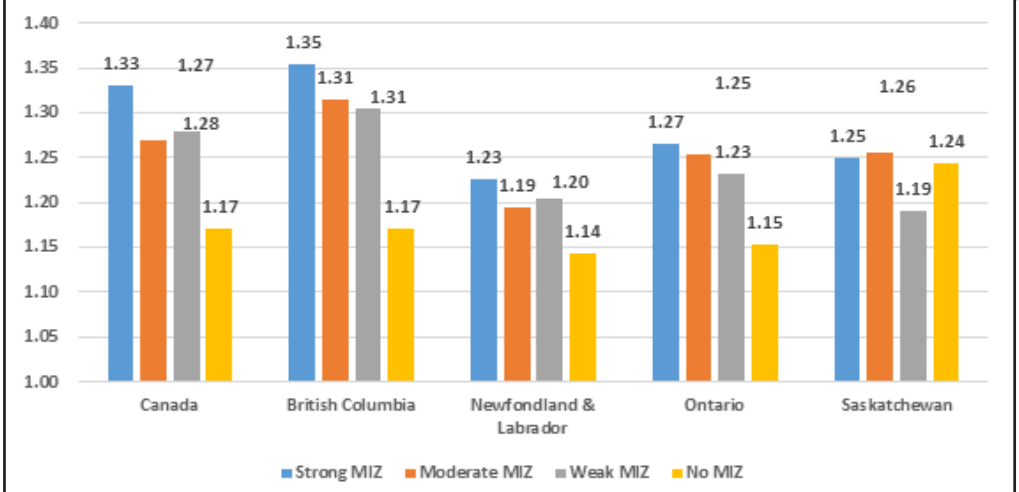


Figure 15 shows the geographical distribution of human capital indicators in rural areas in 2011. In general, the human capital indexes decline as the degree of rurality rises. The indexes are significantly smaller in remote rural areas. The exception is Saskatchewan where the index for remote areas is higher than the one for weak MIZ regions.

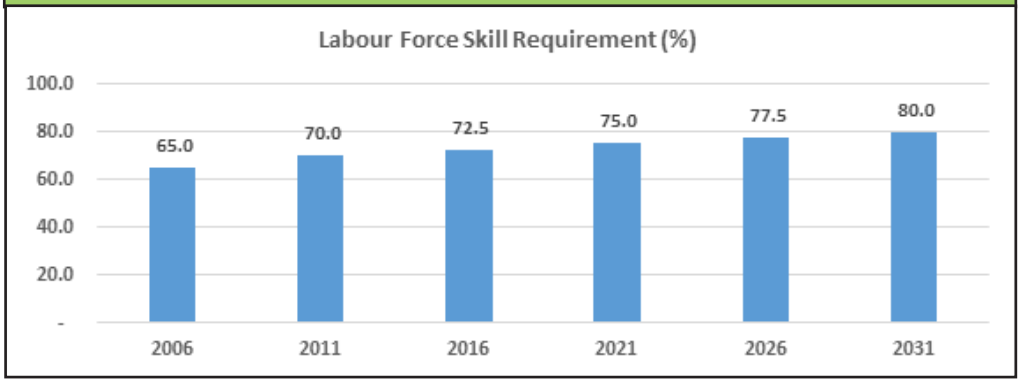
We examined factors explaining the existing earnings gap between rural and urban regions. There are at least two competing explanations for these

Figure 15: Human Capital Composition Indicators for Rural Areas



observed earnings differences. One potential explanation emphasizes the importance of human capital in explaining the earnings gap among employed people in rural and urban regions. The rationale is that workers in larger urban areas have higher human capital and are therefore more productive resulting in higher wages commensurate with the worker's human capital level. Those living in rural areas have lower human capital and therefore lower earnings. This explanation

Figure 16: Percentage of Jobs Requiring Post-Secondary Education



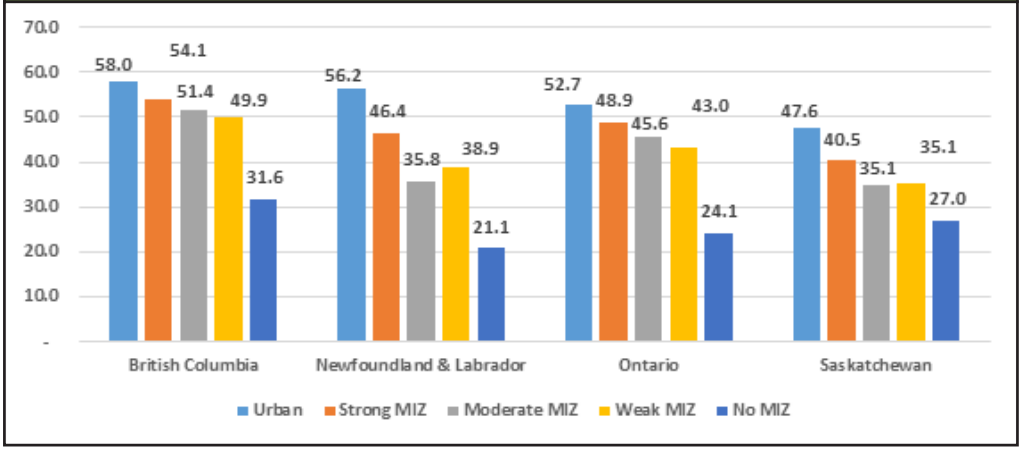
Another potential explanation is the presence of agglomeration economies which refers to the idea that larger urban centres provide firms with a productive advantage that is not usually available to firms in rural areas. The productive advantage relates to the benefits firms obtain from locating near each other. Therefore, workers in urban centres have higher productivity that leads to higher earnings. Agglomeration economies relate to the concept of economies of scale and network effects. The cost per unit of output is expected to decline as close proximity results in greater specialization and division of labour, access to shared infrastructure, lower input costs due to competing multiple suppliers and availability and diversity of labour and market size.

We found that a large share of the earnings gap between rural and urban areas are accounted for by differences in the human capital composition of their employed workforce.

Based on various studies by the Ontario Ministry of Education, Human Resources and Skills Development Canada, BC Ministry of Skills, Training and Education, Ministry of Advanced Education and Labour Market Development in British Columbia and other government agencies, Miner Management Consultants provides estimates of the percentage of new jobs requiring post-secondary education in the coming years (Figure 16).[11]

What is the actual skill availability of the working age population in urban and rural Canada at the present time? How does it compare with the skill requirements shown in Figure 16? Using the 2011 National Household Survey and focusing on the working-age population aged 15 to 64, Figure 17 shows the percentage of the working age population who have post-secondary credentials.

Figure 17: Percentage of Working Age Population with Post-Secondary Credentials in 2011



It appears that the level of educational attainment of the working-age population in urban and rural areas are lower than the estimated skill requirements. The level of educational attainment declines significantly as the degree of rurality rises. In other words, if the existing disparity between the level of educational attainment of the workforce in rural areas and the skill requirements of future jobs remains unchanged, there will be many workers without jobs and many jobs without workers in rural Canada. A recent survey of 150 chief executives of leading businesses in all sectors and regions in Canada reported that companies were unable to fill approximately 11,000 jobs during 2011-2013. Alberta, Quebec, Ontario, Saskatchewan and British Columbia were among the provinces mentioned in the report. Many of the respondents stated that they expect shortages to increase over the next five to 10 years as the population ages and the economy expands.[12] I also surveyed many multinational and multi-locational firms in Northern Ontario. A common theme echoed by many firms was their inability to find qualified workers in rural Northern Ontario.[13]

Given that the stock of human capital affects productivity and earnings capacity of the rural as well as urban population, one approach to maintaining or even increasing earnings and production capacity is to enhance productivity by increasing investment in education in rural areas. In fact, apart from increasing productivity and earnings, investment in education has significant positive social and economic consequences as well. The goal should be to reduce the gap between the existing human capital level in rural areas and the skills requirements of the future jobs as shown in Figure 16.

ENDNOTES

1 Statistics Canada, *Structure and Change in Canada's Rural Demography: An Update to 2006, Rural and Small Town Canada Analysis Bulletin Volume 7*, Number 7.

2 The share of rural population in Quebec (19.4%), Ontario (14.1%), Alberta (16.9%) and British Columbia (13.8%) was below the national average in 2011.

3 Plessis, V.D., R. Badhiri, R.D. Bollman and H. Clemenson, *Definitions of "Rural"*, Statistics Canada, Agriculture Division, December 2002, Catalogue NO. 21-601-MIE – No. 061.

4 This projection method is the most widely used tool by planners since it provides information on the potential growth or decline of a region by age and sex. The Ontario Ministry of Finance also uses the cohort-component method for its long-term population projections.

5 Statistics Canada, *Rural and Small Town Canada Analysis Bulletin*, Vol. 8, No. 3, January 2010.

6 Ibid, Table 3, page 13.

7 Statistics Canada, *Rural and Small Town Canada Analysis Bulletin*, Vol. 8, No. 3, January 2010, page 1.

8 Ibid, page 13.

9 The earnings model is of the form: lnWage = $\alpha + \Sigma\beta_i S_i + X_i\delta_i + \varepsilon_i$, where S_is are the highest level of schooling, X_is are other control variables which include age categories, marital status, etc. and ε_i is an error term.

10 HCI = exp$\{\Sigma\beta_i$. Si shares) where exp stands for exponential and Si shares are share of the population 15 to 64 with Si level of education in a given CSD. The formulation of the human capital measure is based on Hall, R.E. and C.I. Jones (1999), "Why do some countries produce so much more output per worker than others?", the Quarterly Journal of Economics 114 (1), 83-116. Also see Francesco Caselli, "Accounting for Cross-Country Income Differences", First Draft, November 2003.

11 Rick Miner, *People Without Jobs, Jobs Without People*, Ontario Labour Market Future, February 2010.

12 The Canadian Council of Chief Executives, *Second Survey Report: Skills Shortages in Canada*, March 2014.

13 Moazzami, B., *Survey of Multinational and Multi-locational Firms in Northern Ontario,* Prepared for Federal Economic Development Initiative in Northern Ontario, 2012.

14 We undertook four companion studies examining returns to education and its impact on various socio-economic indicators for four population groups (total, Francophones, Aboriginals and immigrants) in British Columbia, Newfoundland and Labrador, Ontario and Saskatchewan. Results provide quantitative estimates of the impact of higher education on the probability of being unemployed, labour force participation rate, dependency rate, likelihood of working part-time or full-time and earnings.

For more information please visit
strengtheningruralcanada.ca
STRENGTHENING RURAL CANADA
RENFORCER LES COMMUNAUTÉS RURALES DU CANADA
Our people. Our communities. Our future.